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Attorney Docket: 008312-0305862

REMARKS

Claims 1-6 are pending. By this Amendment claim 3 is amended. Reconsideration in view of the above amendments and following remarks is respectfully requested.

Claim 3 was objected to. Claim 3 has been amended in accordance with the suggestion of the Examiner. Reconsideration and withdrawal of the objection are respectfully requested.

Claims 1-3 were rejected under 35 U.S.C. § 102(e) and claims 4-6 were rejected under 35 U.S.C. § 103(a) over Stirn (U.S. Patent 6,533,972). The rejections are respectfully traversed.

Claim 1 recites, *inter alia*, obtaining a pattern showing torque of an ejector-pin driving motor versus time or a position of an ejector pin when a molded product is normally removed; setting in advance at least one monitoring zone based on the pattern and the upper and lower limits of torque in each of the monitoring zones; and monitoring a torque value in each of the monitoring zones during the ejecting step, judging that a malfunction occurs when the torque value falls outside the upper and lower limits of the monitoring zone, and raising an alarm.

The Examiner alleges that Stirn discloses setting in advance at least one monitoring zone based on a pattern and the upper and lower limits of torque in each of the monitoring zones in column 6, lines 3-6 and 27-28 and column 7, lines 47-58. The Examiner further alleges that Stirn discloses monitoring a torque value in each of the monitoring zones during the ejecting step, judging that a malfunction occurs when the torque falls outside the upper and lower limits of the monitoring zone, and raising in an alarm in column 6, lines 58-65. It is respectfully submitted that Stirn does not disclose or suggest any of these features.

Stirn discloses in column 6, lines 3-7, that a motor current limit value for motor 40 is set to a low value (LO) to limit the useable force (torque) produced by the ejector actuator. See the remainder of the first paragraph of column 6.

Stirn does not disclose or suggest monitoring a torque value in a monitoring zone, as recited in claim 1. As discussed above, Stirn sets the useable force (torque) of the ejector actuator. As the torque is set, there is no need to monitor it. In addition, Stirn clearly does not disclose setting in advance an upper and lower limit of torque. Stirn clearly sets the torque at a single low value (LO).

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Stirn also does not disclose or suggest judging that a malfunction occur when the torque falls outside the upper and lower limits of the torque. Stirn judges that a "stalled" condition occurs by determining a servo position error, i.e. a difference between commanded and measured position, exceeds a limit value ($PE(E) > LIM$). See column 6, lines 17-24. Determining the position of the servo motor 40 is not determining a torque value of the servo motor 40.

Alternatively, Stirn judges that a "stalled" condition has occurred by determining the absence of a change of position indicated by the transducer 120 over a predetermined interval while motor is being controlled to effect motion. See column 6, lines 25-29. In other words, if the motor 40 is operating and the transducer 120 detects no change of position of the ejector arm 50, an ejection malfunction is determined. Again, detecting a change of position, or a lack of change of position, of the servo motor 40 is not determining a torque value of the servo motor 40.

As Stirn does not disclose or suggest the features of claim 1, Stirn cannot anticipate or render obvious claim 1.

Claim 2 recites, *inter alia*, obtaining a pattern showing torque of an ejector-pin driving motor versus time or a position of an ejector pin when a molded product is normally removed; setting in advance at least one monitoring zone based on the pattern and the upper and lower limits of torque in each of the monitoring zones; monitoring a torque value in each of the monitoring zones during the ejecting step, judging that a malfunction occurs when the torque value falls outside the upper and lower limits of the monitoring zone, and counting the number of malfunctions.

As discussed above, Stirn does not disclose or suggest setting in advance at least one monitoring zone based on the pattern and the upper and lower limits of torque in each of the monitoring zones. Stirn discloses setting the motor current limit value for motor 40 at a low value (LO). Stirn also does not disclose or suggest monitoring a torque value in each monitoring zone. Stirn further does not disclose or suggest judging an ejection malfunction when the torque value falls outside the upper and lower limit. Stirn judges an ejection malfunction, i.e. a "stalled" condition, by determining that a servo position error exceeds a limit value.

With respect to column 6, lines 36-49, of Stirn, noted by the Examiner, again Stirn discloses in column 6, lines 40-44, that when the first "stalled" condition is detected, the motor 40 is controlled to cease motion and the actual position of the ejector mechanism is

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read from the transducer 120. At no point during the process of Stirn is the torque of the motor 40 monitored. As disclosed by Stirn in column 4, lines 36-39, regardless of the nature of the transducer 120, the transducer 120 is effective to measure position representative of position of movable members 42 and, hence, representative of ejector pins 56. The transducer 120 of Stirn never monitors the torque of the motor 40.

Stirn does not disclose or suggest each feature of claim 2 and thus does not anticipate or render obvious claim 2.

Claim 3 recites, *inter alia*, obtaining a pattern showing torque of an ejector-pin driving motor versus time or a position of an ejector pin when a molded product is normally removed; setting in advance at least one monitoring zone based on the pattern and the upper and lower limits of torque in each of the monitoring zones; monitoring a torque value in each of the monitoring zones during the ejecting step, judging that a malfunction occurs when the torque value falls outside the upper and lower limits of the monitoring zone, and counting the number of malfunctions.

Stirn does not disclose or suggest setting in advance a monitoring zone having upper and lower limits of torque. Stirn does not disclose or suggest monitoring a torque value in a monitoring zone. Stirn does not disclose or suggest judging a malfunction occurs when the torque value falls outside the upper and lower limits. Accordingly, Stirn cannot anticipate or render obvious claim 3.

Claim 4 recites, *inter alia*, obtaining a pattern showing hydraulic pressure of an ejector-pin driving hydraulic pump versus time or a position of an ejector pin when a molded product is normally removed; setting in advance at least one monitoring zone based on the pattern and the upper and lower limits of hydraulic pressure in each of the monitoring zones; and monitoring a hydraulic pressure value in each of the monitoring zones during the ejecting step, judging that a malfunction occurs when the hydraulic pressure value falls outside the upper and lower limits, and raising an alarm.

The Examiner alleges that Stirn discloses obtaining a pattern showing torque versus time, monitoring a torque value, and judging a malfunction when a torque falls outside an upper and lower limit. As discussed above, Stirn discloses or suggests none of these features. The transducer 120 of the motor 40 of Stirn determines position, it does not determine or monitor torque.

With respect to the Examiner's allegations that monitoring the hydraulic pressure of a hydraulic pump would be functionally equivalent to monitoring torque of an electric motor,

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as Stirn does not disclose or suggest monitoring the torque of the motor 40, such an allegation, even if it were true, would be irrelevant to the determination of obviousness of claim 4. It is also respectfully noted that MPEP § 2144.06 states: "In order to rely on equivalence as a rationale supporting an obviousness rejection, the equivalency must be recognized in the prior art, and cannot be based on applicant's disclosure or the mere fact that the components at issue are functional or mechanical equivalents." As the Examiner has not pointed to any portion of Stirn, or any other prior art of record, that recognizes that monitoring the hydraulic pressure of a hydraulic pump would be functionally equivalent to monitoring torque of an electric motor, it is respectfully submitted that the Examiner's reliance on this rationale is improper and fails to support the determination of obviousness of claim 4.

In addition, the Examiner acknowledges on the sentence bridging pages 4 and 5 of the Office Action that Stirn does not disclose or suggest the use of a hydraulic pump in his invention. In essence, the Examiner admits that the rejection of claim 4 under 35 U.S.C. § 103(a) over Stirn fails to present a *prima facie* case of obvious as the Examiner acknowledges that Stirn does not disclose or suggest all the claim limitations. See MPEP § 2143.

With respect to claims 5 and 6, it is respectfully submitted that the Examiner's reliance on the "functional equivalency" of hydraulic pumps and electric motors fails to support the determination of obviousness for the same reasons discussed above. It is also respectfully submitted that Stirn does not disclose or suggest setting upper and lower limits of torque, monitoring torque, and/or judging a malfunction when the torques falls outside the upper and lower limits. It is further respectfully submitted that the Examiner has failed to present a *prima facie* case against claims 5 and 6 as Stirn discloses or suggests nothing regarding the use of a hydraulic pump in his invention and therefore fails to disclose or suggest all the limitations of claims 5 and 6.

Reconsideration and withdrawal of the rejections over Stirn are respectfully requested.

Claims 1 and 4 were rejected under the judicially created doctrine of obviousness-type double patenting over claims 1, 3 and 5 of U.S. Patent 6,669,877 and over claims 1, 3 and 7 of U.S. Application 10/636,621 (U.S. Patent Application Publication 2004/0026810 A1). The rejections are respectfully traversed.

MPEP § 804 states:

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"A double patenting rejection of the obviousness-type is 'analogous to [a failure to meet] the nonobviousness requirement of 35 U.S.C. 103 except that the patent principally underlying the double patenting rejection is not considered prior art. *In re Braithwaite*, 379 F.2d 594, 154 USPQ 29 (CCPA 1967). Therefore, any analysis employed in an obviousness-type double patenting rejection parallels the guidelines for analysis of a 35 U.S.C. 103 obviousness determination. *In re Braat*, 937 F.2d 589, 19 USPQ2d 1289 (Fed. Cir. 1991); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985).

Since the analysis employed in an obviousness-type double patenting determination parallels the guidelines for a 35 U.S.C. 103(a) rejection, the factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103 are employed when making an obvious-type double patenting analysis. These factual inquiries are summarized as follows:

(A) Determine the scope and content of a patent claim relative to a claim in the application at issue;

(B) Determine the differences between the scope and content of the patent claim as determined in (A) and the claim in the application at issue;

(C) Determine the level of ordinary skill in the pertinent art; and

(D) Evaluate any objective indicia of nonobviousness.

The conclusion of obviousness-type double patenting is made in light of these factual determinations.

Any obviousness-type double patenting rejection should make clear:

(A) The differences between the inventions defined by the conflicting claims - a claim in the patent compared to a claim in the application; and

(B) The reasons why a person of ordinary skill in the art would conclude that the invention defined in the claim at issue would have been an obvious variation of the invention defined in a claim in the patent."

It is respectfully submitted that the Examiner's conclusion that particular claims of U.S. Patent 6,669,877 and U.S. Application 10/636,621 "are fully encompassed" by particular claims of the instant application fails to present a *prima facie* case of obviousness-type double patenting. In particular, it is respectfully submitted that the Examiner has not performed any of the analysis for establishing a *prima facie* case as the rejection utterly fails to make clear either the differences between the claims and/or the reasons why one of

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ordinary skill in the art would have concluded that the invention defined by the claims 1 and 4 of the instant application are an obvious variation of the noted claims of U.S. Patent 6,669,877 and U.S. Application 10/636,621. The Examiner is respectfully requested to perform the analysis, or withdraw the rejection.

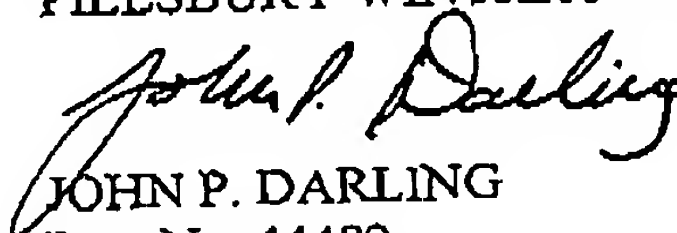
Reconsideration and withdrawal of the rejections under the judicially created doctrine of obviousness-type double patenting are respectfully requested.

In view of the above amendments and remarks, Applicants respectfully submit that all the claims are allowable and that the entire application is in condition for allowance.

Should the Examiner believe that anything further is desirable to place the application in better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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